

THE QUAVER,

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And Exponent of the Letter-note Method.

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The Quaver,

June 1st, 1876.

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In order to give members of the Composition Class ample time for studying the subject previous to working upon it practically, it has been considered desirable to print the instructions in advance of the exercises. More space than usual is, therefore, devoted this month to "First Steps," and the continuation of the article on "Musical Notation" is unavoidably postponed until next month.

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First Steps in Musical Composition.—(continued from last Number.)

CHAPTER III.

Consonances and Dissonances.



DISSONANCES, as well as consonances, are employed in the formation of chords (*par.* 20); it, therefore, now becomes necessary to consider the distinction between the two kinds of interval.

80. If we try all the various ways in which the sounds of the scale can be combined, two and two, we shall find that certain of these produce *consonances*—harmonious combinations upon which the ear rests with pleasure; but that others yield *dissonances*, which, although not necessarily disagreeable or harsh, are yet less harmonious than the consonances, and the ear rests upon them with less satisfaction.

81. Dissonances, happily introduced and properly treated, so far from being harsh or disagreeable, are really what lends music its greatest charm. The time has been when consonances were the only constituents of what was considered to be music, and even now the very simplest chords are what uneducated ears delight in: but, as the science progressed, the ear became trained to bear and enjoy combinations which, formerly, would have been intolerable. If so homely a comparison is permissible, the analogy which exists between taste corporeal and taste musical will serve to illustrate the use of dissonances. The palate of an epicure has been educated into the enjoyment of what would disgust a savage, and, in like manner, modern music revels in dissonances which might have horrified Jubal. Dissonances, even the most crabbed of them, are the condiment which, skilfully thrown in, gives a relish and pungency to simpler chords: they are the acids blending and contrasting with the sweets, and preventing the latter from cloying through their very sweetness.

82. The distinction between consonances and dissonances, briefly stated, amounts to this:—a consonance is self-contained and satisfactory, and conveys, in a greater or less degree, the idea of *rest*: a dissonance is incomplete—unfinished—the ear expects, in fact *demands*, that something else will succeed it: further, for the treatment of chords formed by consonances, the simple rules already laid down (*pars.* 35 to 52) are sufficient, but those in which dissonances occur require in addition special treatment, and are subject to special laws.

83. The following are the

CONSONANT INTERVALS.

<i>Perfect.</i>	{ The Octave.....	The Unison.
	{ „ Perfect Fifth.....	„ Perfect Fourth.
<i>Imperfect.</i>	{ „ Major Third.....	„ Minor Sixth.
	{ „ Minor Third.....	„ Major Sixth.

Those intervals in the same line are the inversion of each other. Strictly speaking, the Unison is not an interval, although it is convenient to speak of it as such.

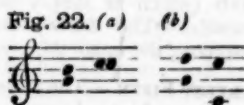
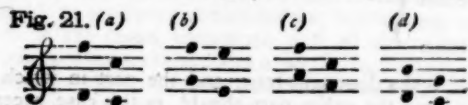
84. As shown in the above table, there are two kinds of consonances—viz., *perfect* and *imperfect*. The terms are here used in a technical sense, referring to the perfect or imperfect relations of the sounds as they result from the just divisions of a musical string, (*see Memoranda on Interval*). In a popular sense, however, the imperfect consonances are the most perfect; they form the element which gives every chord its sweetness and beauty. (*Pars.* 49 and 50).

85. Out of the distinction which exists between perfect and imperfect consonances arises

Rule VIII.—Avoid covered Unisons, Fifths, and Octaves.

86. *Covered or hidden* unisons, fifths, or octaves occur when parts which hold either of these relations to each other, have arrived there by *similar* motion: in other words, when two parts move to these intervals *in the same direction*. Such progressions are faulty because they closely resemble *consecutive* unisons, fifths and octaves. (*Par.* 35).

87. Rule 8 is imperative in two-part, and, to some extent, in three-part harmony. In four-part harmony, the multiplicity of parts makes the defect less conspicuous; but even here it is objectionable in cases where the interval departed from is almost of the same magnitude as the one arrived at, as in fig. 21, *a*, *b*, *c*, and *d*. But progressions such as fig. 22, *a* and *b* are freely used in four-part harmony.



88. The following are the

DISSONANT INTERVALS.

The Minor Seventh.....	The Major Second.
" Major Seventh.....	" Minor Second.
" Imperfect Fifth.....	" Plurperfect Fourth.
The Ninth.	

Those intervals in the same line are the inversion of each other.

Theoretically, the ninth differs from the compound second, as explained hereafter in paragraph—

89. Of two sounds forming a dissonance, one is termed *the dissonant tone*: the other does not appear to have any specific designation, but we may find a name for it useful, and shall, therefore, call it *the primary tone*. A subsequent paragraph () states which of these sounds is the dissonant tone, and which the primary.

The term *prime* is sometimes employed in works on Harmony to signify the sound from which any given interval is reckoned: in a similar way we shall use the term *primary tone* to denote the sound from which a dissonant tone is reckoned, and with which it forms a dissonance.

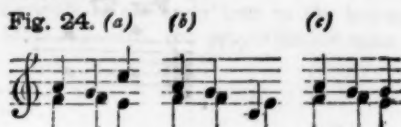
PREPARATION AND RESOLUTION OF DISSONANCES.

90. The progression of the parts which contain the dissonant and primary tones is subject to special laws, for a dissonance is in most cases *prepared*; next, it is sounded; and lastly, it is *always resolved*. The first of these provides a connecting link (*par.* 43) between the two chords, and prepares the ear for the coming dissonance: the last is required in order to resolve (to *satisfy* or *dissolve*) the feeling of expectancy and unrest which the dissonance engenders.

91. Preparation of a dissonance consists in causing the dissonant tone to appear as a *consonance* in the chord immediately preceding.

92. Resolution of a dissonance is effected by the part which contains the dissonant tone descending one degree; and the part in which the primary tone occurs should either ascend a fourth, descend a fifth, or remain stationary.

93. Fig. 23 exemplifies a Seventh, and fig. 24 a Second, prepared, struck, and resolved in each of the ways mentioned in paragraph 92.



The progression shown in fig. 24 *b* is *possible* rather than *desirable*, as the parts cross each other.

94. Progressions different from those mentioned in paragraph 92 are, in certain cases, required; as, for instance, the last two in paragraph 95. Others are *permitted*, and will receive notice as we proceed.

95. As certain of the dissonances are the inversions of each other,

THE POSITIONS OF THE DISSONANT AND PRIMARY TONES

are necessarily inverted also: they are as follow:—

SEVENTH.—the *upper* sound is the dissonant; the *lower*, the primary tone.

NINTH.—The positions are the same as in the Seventh.

SECOND (which is simply an inverted Seventh).—The *lower* sound is the dissonant; the *upper* the primary tone.

In each of these cases, the parts should move as stated in paragraph 92.

IMPERFECT FIFTH.—The *upper* sound is the dissonant tone, and the part in which it occurs ought to descend one degree: the other part should, in this case, ascend one degree.

PLUPERFECT FOURTH (which is an inversion of the preceding).—The *lower* sound is the dissonant tone, and the part containing it should descend one degree: the other part, in this case, ought to ascend one degree.

96. Examples of these modes of resolving a Seventh, and also of a Second, have already been given in figs. 23 and 24; resolution of a ninth is shown in fig. 27 and of an Imperfect Fifth and a Pluperfect Fourth, in figs. 25 and 26.

Fig. 25.

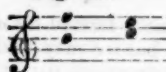
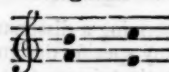


Fig. 26



97. The reason why the Imperfect Fifth and the Pluperfect Fourth are resolved in a different manner is this:—the Seventh and the Ninth form fundamental chords, bearing these names, and having inversions of their own, and the parts make their progressions accordingly. The Second is produced by the inversion of the chord of the seventh, and is, therefore, resolved similarly, only in an inverted way. The Imperfect Fifth and the Pluperfect Fourth are merely *portions* of a chord, and take the progressions which belong to them as such. These points will appear more clearly when we treat of the chord of the seventh, in Chapter 4.

98. Dissonances formed by

COMPOUND INTERVALS

are resolved in the same manner as in the corresponding simple intervals, but—

THE NINTH

(although the same interval as the Compound Second) is, in Harmony, supposed to be a different combination. The reason for this has already been stated in paragraph 97: it forms an original chord, and its resolution involves the progression stated in paragraph 95, and exemplified in fig. 27. A Compound Second, on the other hand, requires to be resolved in the same way as a Second, as shown in fig. 28.

Fig. 27.

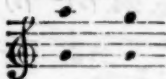
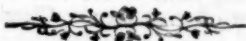


Fig. 28.



The student will probably ask how is he to distinguish between the two—the answer is that he can *make* the interval either a Compound Second or a Ninth by the manner in which he chooses to resolve the dissonance: if the parts move as in fig. 27 it is called a "Ninth;" but if as in fig. 28 it is termed a "Compound Second."



Memoranda for the use of Members of the Composition Class.

Interval—Construction of the Scale.—(Continued from Number 4.)

Octaves and unisons are of one kind only—*perfect*. The minor seconds which occur naturally in the scale (MI-FA and TI-DO) are also of one kind only—*five commas*; but those formed chromatically differ in magnitude. For instance, if we place a sound between FA and SOL, and make it a true minor second (five commas) below SOL, it is evident that the interval between the intermediate sound and FA is only four commas. True, it is possible to produce a sound midway between FA and SOL, and on *tempered* instruments, such as the organ, pianoforte, and all other instruments having fixed sounds, this is precisely what is done. But a *perfect* instrument, like the human voice, and its closest imitation—the violin—can and do produce the just intervals; and it is this fact which gives them their admitted superiority over all other instruments.

Compound intervals are subject to the same laws, and are practically the same, as the corresponding simple intervals: nevertheless, Harmony makes a distinction between a ninth and a compound second.

Certain intervals have a connection or correspondence with certain others, because the one produces the other by *inversion*—i.e. raising the lower sound, or lowering the upper, an octave. In the following table, intervals which are the inversion of each other are printed in the same line:—

Minor Second,	Major Seventh.
Major "	Minor "
Minor Third,	Major Sixth.
Major "	Minor "
Perfect Fourth,	Perfect Fifth.
Pluperfect "	Imperfect "

The sounds of the scale, and consequently the intervals formed by them, although apparently arbitrary and irregular in their arrangement, are really the effect of a simple and beautiful law—viz., that the musical relationship which exists between any two sounds is the result of *simplicity of proportion* in the speed of the vibrations which produce those sounds; and the simpler the proportion, the closer is the relationship. For instance, 1 to 2, 2 to 3, and 3 to 4 are *simple ratios*; 49 to 50 is not: the former are the proportionate rates of vibration which produce the most closely related sounds, the latter has no musical relation whatever. This fact can be shown very clearly by dividing a musical string into the lengths required to produce the various intervals; for it will be found that the *simplest* division (that which involves the smallest number of equal parts) produces the closest relationship. Thus, supposing the whole length of the string to represent the *prime*, or sound to be reckoned from, shortening the string by one half of its length (the simplest division possible) gives an *octave* (the sound nearest related to the prime); shortening the string by one-third (the next most simple division) gives a *fifth* (the sound next in nearness of relationship); and, in like manner, shortening the string by one-fourth of its length gives a *fourth* (the next related sound): these intervals are *perfect* consonances—the relation to the prime is perfect. Again, shortening the string by one-fifth gives the interval of a *major third*; by two-fifths, a *major sixth*; by one-sixth, a *minor third*; and by three-eighths, a *minor sixth*: these intervals are *imperfect* consonances. Sounds forming dissonances have still less connection with each other, and their ratios are in like manner less simple.

Key-relationship, or the relation which the sounds of the scale bear to the key-tone and each other, is the result of precisely the same law—viz., the proportionate rates of the vibrations which produce the sounds.

A Change of Key.—(Continued from last Number.)

Greatly flattered by the compliment, Mr. Titlark now put on additional power: to all appearance, he could go on spinning yarns to the end of time, and members might consider themselves lucky if they got off even then. Clearing his valves with a sonorous snort, he resumed—

"Without a word of parley, or so much as 'ask your leave,' my guide stalked boldly in: I followed relying on his knowledge of the place and the people. The only inmates visible were a woman, a child, a dog, and some ducks: so far well, I thought, nothing as yet to feel alarmed about. A few words, spoken in Garlic by my guide, seemed to explain the object of our visit. 'Come Ben,' said the woman, leading the way to an adjoining apartment. However she knew my name was Benjamin, I could never understand; but I followed, asking no questions, for the woman's knowledge of English was about equal to my proficiency in Garlic.

Having ushered me into what was evidently a superior room, the woman, together with my guide, proceeded in quest of Shooglety; and, while waiting his coming, I took advantage of the opportunity afforded for reconnoitering. The apartment in which I now found myself had quite a military look: several muskets were hung on the wall, also a tremendous sword with a basket hilt, a short sword like a bayonet, and a battle-axe. But a more suspicious-looking weapon attracted my attention immediately: it was a four-barrelled blunderbuss, and it made my very blood run cold when it first caught my sight. The horrid thing was pointing directly towards me, and I could look straight into its ugly black muzzles, like the mouths of so many hissing snakes, ready to strike. What *could* the diabolical weapon be? I had never seen anything like it before; but had heard of an 'infernal machine,' with ever so many barrels, and concluded this was one of them things. And infernal enough it looked: the stock of the blunderbuss was something of the nature of a pouch—could it be an ammunition pouch, I thought—then the barrels were of different lengths, and, instead of being parallel, they diverged like the spokes of a wheel. Near the muzzles, they were connected loosely by means of a finger-length or so of silk ribbon; and apparently were moveable, so that they could be adjusted to any angle, and spread out their fire. Really, it was enough to shake one's nerves; and I quickly edged off out of the line of fire, and examined it in comparative safety. I observed, further, that the barrels were strengthened, here and there, with hoops of polished metal; and the muzzles were decorated with ribbons, of various colours, hanging down like streamers on a recruiting serjeant's hat. The whole thing was a puzzle, but at last it dawned upon me what the villainous weapon was—it must be an air-gun! It gave me quite a turn to think how easily a man might get his quietus, and never as much as hear the report of his own execution. Those engines are such secret, treacherous things, you know: they don't make as much noise as a pop-gun, and are as sure as the best gunpowder. Alas! it was only too evident what sort of work the infernal weapon was intended for—

But hark! a footstep approaches, and there is barely time to adjust my pistols, when in walked Shooglety, followed by the woman bearing a cold collection—a very welcome thing despite my fears, for toil and fasting had made a reflection of some sort absolutely indispensable. Shooglety was a tall, powerful man, with a rough crop of fiery red hair, and a beard to match: the latter did not hang gracefully down in civilized fashion, but projected stiffly from his chin as if it was intended to serve as a tray for the carriage of small articles—its proprietor might very well have used it to keep his snuff-box upon, and inhaled the fragrance as he went. His arms were bare, and so were his knees—for he had no trousers on, and only wore that apron-sort of a thing they call a 'kilt'—and such portions of his skin as were visible were not remarkable for cleanliness. Well now, I thought, of what use was the hundred-weight or two of soft soap, as per invoice, which appears as an item of the debt due to the house I represent. But, whatever the soft soap was wanted for, he evidently used it sparingly in his toilette, and exhibited none of it in his manner.

'Good day,' said he in a rough voice, bawling in a loud tone as if talking to a person a quarter of a mile off.

Mentally calculating my fustical strength compared with his, I determined to speak respectfully.

'Have I the honour of addressing Mr. Shooglety?'

'To be sure,' he grunted.

'I have the pleasure of waiting upon you as the representative of Messrs. Ash and Kelp.'

'Did she wait long?'

At first I thought he was in a jugular vein, and was making fun of me; but, as he appeared perfectly in earnest, I signified to him that I had just arrived, and had waited upon him respecting that little bill.

'What bull?' he asked, 'Has that deevil of a beast got out again?'

He *must* be in a jugular vein, I thought again. But no, his evident perplexity testified to the contrary: it was the Garlic that blocked up his understanding—how *shall* I make him comprehend?

'The account, Mr. Shooglety, for sundry pipes of oil and other etceteras—the house I represent expected to have heard from you.'

I could perceive he understood me now; for his face lighted up with intelligence, and with a gruff 'ho, ho,' he cried—

'The pipes! To be surely she'll hear—was she fond of hermony?'

I signified to him that the house I represented was not unreasonable, but they naturally expected to have their money paid in proper time.

'Proper time,' he bawled, 'there's no a body in all the Eelands can play so proper than Shooglety.'

Then, crossing the room with the strut of a brayvo, he seized the air-gun.

An awful moment it was! I grasped my pistol, and, with my finger on the trigger, watched his every motion. A feet-off-arms did not appear to be his intention just then; for he shouldered the air-gun, and marched up and down the room like a sentry on duty. But I watched him closely, nevertheless.

One of the barrels rested on his shoulder, and the others hung loosely behind his arm. The pouch he tucked under the other arm: next, he took a sort of flexible tube, and, putting the end of it in his mouth, blew through as if to clear it. What is coming now, I wondered!—but a new idea seized me. After all, it's only a pipe—as he calls it—one of them queer hubb-e-bubble things they smoke with in foreign parts.

I really felt quite relieved by this discovery, and could scarcely refrain from laughing outright at the absurdity of my apprehensions—when all of a sudden the infernal thing went off with a horrible roar—an awfully hideous noise that made my brain quiver. It was n't exactly an explosion, but a noise like the rasping of a rusty saw, the thrum of a cotton mill, and the shriek of a railway whistle, all combined into one prolonged peal of thunder.

What fresh horror could this be? It was evidently intended for music; for there stood Shooglety, with head erect and eyes flashing, his cheeks puffed out with blowing, and his elbows working away like an ostrich attempting to fly. Had the performer been 'the monster, Polhemmy,' with his 'hundred reeds of decent growth, To make a pipe for his capacious mouth,' he couldn't have made a greater clamour. Such a tornado of discord I never heard in my life; and, in a small apartment, ten foot by six, it was overwhelming: it made the window rattle, and set the glasses dancing on the shelf—Oh, my poor ears! Then it was such an unearthly din: first, there was a sort of ground-floor bass, all on one note; next, above it, there was an upper-floor bass, all on one note in like manner; and, a-top of all, there was the shrill, harsh notes of the tune, which pierced my head as if a red-hot wire was run through from ear to ear.

It was unendurable: the uproar was stupifying—blinding me. I broke into a cold perspiration, and could scarcely stand for giddiness. Louder and louder waxed the awful clangour, faster and faster raced the tune; and, as Shooglety played on, I could almost fancy I saw his form gradually swell. Bigger and bigger it grew, as he stood between me and the crimson evening sky, looking redder and more fiery than ever in the lurid twilight, and pumping away as if he was the parish engine making a last desperate effort. Bigger and bigger yet, until his figure filled the whole range of my vision—it was all Shooglety. Bigger still, and it was all head—a red-hot, fury-tinged head—then all was darkness!

I must have lost consciousness, and staggered to the door through the thunderstorm, for I found myself outside, the cool breeze fanning my temples, and Shooglety's instrument of torture roaring like a ho-blast furnace in-doors: very 'probably' he was so much engrossed with his occupation that my absence escaped his notice. Presently my guide made his appearance. Striving hard to get the red-hot wire out of my ears, and scarcely able to speak, I remarked that the laird was an astounding executioner.

'The laird!' he said in surprise, 'that's no the laird—the laird's gone away South this very morning.'

'Why then, who is that performing?'

'Who but Shoooglety, the laird's piper, the best player in the shire.'

'But his name is the same as the laird's.'

'So 'tis, but 'maist everybody's name in this glen is Shoooglety.'

Here was a wild goose chase, truly: to end in a pair of split ears, too. The wire in my head made me feel like a spitted goose; and I determined to return forthwith, late as it was, being rather doubtful whether my poor skewered ears might not be subjected to further torture—you know what a delicate ear I have. My guide protested: Shoooglety pressed me to stay—he wanted me to hear another grand tune, composed by P. Broch, a distinguished composer in that part of the world—but my brain reeled at the very suggestion: another such performance would have ended me by the time it was ended, and I pleaded urgent business. Shoooglety was kind enough to lend us a couple of stout nags to carry us over the ten miles or so we had walked; and, bidding the powerful executor farewell, we took our departure."

[Continued in our next.]

MONTHLY NOTES.

The first concert, this season, of the Welsh Choral Union was held in the concert room of the Royal Academy of Music, conducted by Mr. John Thomas, consisting of Welsh music, sacred and secular.

Herr Anton Rubenstein, the distinguished composer and pianist, visited England last month, and gave performances at St. James's Hall. His feats of musical legerdemain, and, what is better, his splendid rendering of the music performed, drew large and admiring audiences.

Bach's *Mass in B minor*, performed for the first time in England in April, and again in May, was very successful. The remarkable nature and great difficulty of the music, and the fact that the performance was not a speculation, but a service rendered to the musical public by Herr Goldschmidt, by the committee who undertook the responsibility, and a choir of aristocratic amateurs, including in its ranks professional amateurs like Madame Goldschmidt, rendered the performance an event almost without precedent.

Visitors of the Exhibition of Scientific Apparatus at South Kensington will have an opportunity of meeting

The Enharmonic Organ.

The peculiarity of this instrument consists in its ability to produce *un-tempered* intervals in all, or nearly all, keys. Those who are familiar with the principle upon which the organ, pianoforte, and all instruments with fixed sounds are tuned, are well enough aware that they produce *tempered* intervals, i.e. sounds in which every interval, the octave and the unison excepted, are slightly short of absolute purity. In fact, to do otherwise, in an instrument capable of producing only twelve sounds in the octave is a physical impossibility: we must either use the old system of "unequal temperament"—tuning for performance in a few keys with something like just intonation, and leaving the others absolutely unearable—or else adopt the modern "equal temperament," tuning the instrument so as to perform in all keys alike, and, consequently, in every key a little short of perfection.

The acknowledged superiority of the harmony produced by the natural and untempered sounds of the human voice, and of instruments like the violin, and violoncello, the purity of whose intonation

depends solely upon the performer, induced General T. Perronet Thompson to attempt the construction of an organ capable of fulfilling the same conditions as a quartet of voices or of string instruments: the result forms the subject of the present notice.

The Enharmonic Organ provides for as many as forty sounds in the octave; but, as so large a number is never required for any one key, the matter is simplified by distributing the sounds over three finger-boards (usually termed *key-boards*) and limiting each finger-board to the performance of certain keys only. By this means the number of manuals liable to be used at any one time is reduced to some twenty or twenty-one in the octave. In addition to which the manuals are coloured, the key-tone red, and the others white or black, arranged in such a way as to render the colours helpful to performers instructed in their use. For the assistance of the blind, manuals of one colour are serrated; and those of another, plain, &c.

Certain other peculiarities of construction have been introduced, some of which are applicable to the ordinary organ; as, for instance, a "regulator," counteracting the effects of changes of temperature in *un-tuning* certain portions of the instrument. In his work "Just Intonation," General Thompson remarks, "Organ-builders have a saying, that a popular preacher puts the organ out of tune: which he does by increasing the congregation, and with it the heat."

The Enharmonic Organ was built by Robson, St. Martin's Lane, London, in 1856, and was after a time removed to a chapel in Jewin Street, where for a number of years it was open to the inspection of the public on certain days of the week. General Thompson himself attended regularly, giving willing encouragement and assistance to young vocalists pursuing their studies in connection with the more perfect model which his organ provided. At his death, in 187, the organ became the property of Mr. Curwen, the founder of Tonic Sol-fa, to whom it was bequeathed.

Possibly the public are little aware how much they are indebted to General Thompson for his public-spirited labours in their behalf. In bygone years he was associated with Cobden and others in the Anti-corn Law movement. More recently, he liberally contributed time and money to the cause of musical progress. His "Just Intonation," a work crammed with information upon every subject, from the *weight* of a sound down to the best way of tuning a guitar, is the fruit of many years' scientific research.

